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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop
Additional Methods to Implement the California
Renewables Portfolio Standard Program.

Rulemaking 06-02-012
(Filed February 16, 2006)

**ADMINISTRATIVE LAW JUDGE'S RULING
REQUESTING POST-WORKSHOP COMMENTS ON TRADABLE
RENEWABLE ENERGY CREDITS**

Request for Post-Workshop Comments

At the workshop on the possible use of tradable renewable energy credits (RECs) for compliance with California's renewables portfolio standard (RPS) held September 5-7, 2007, participants were informed that there would be opportunity for submitting comments after the workshop. Energy Division staff has reviewed the workshop presentations and party participation and developed guidance for the post-workshop comments, set out below.

Post-workshop comments, not longer than 50 pages, may be filed and served, in accordance with the instructions in this ruling. Comments must be filed and served not later than November 13, 2007; reply comments, not longer than 25 pages, must be filed and served not later than November 30, 2007.¹

¹ Attachments to comments must come to no more than 25 pages; attachments to reply comments must come to no more than 15 pages. All attachments must be germane to comments. The connection of the material in any attachments to the comments must be specifically made in the text of the comments or reply comments.

Guidance for Comments

Comments should be informed by the statutory requirements of the RPS program, Pub. Util. Code §§ 399.11-399.20. A copy of § 399.16, authorizing the Commission to develop the use of tradable RECs for RPS compliance and providing certain conditions, is attached as Attachment A.

Commenters are also strongly urged to review the presentations at the workshop, which are available at <http://www.cpuc.ca.gov/static/energy/electric/renewableenergy/070824recworkshop.htm> and are incorporated in this ruling by reference. A list of presentations is attached as Attachment B. As with the pre-workshop comments, staff has prepared guidance for post-workshop comments. Questions are set out in Section B, below. Background and supporting information is found in Attachments A-F. Commenters with similar views are encouraged to present joint comments or reply comments.

A. Proposed Guiding Principles

The proposed Guiding Principles set forth in the July 19, 2007 Administrative Law Judge's Ruling Requesting Pre-Workshop Comments are reproduced below. It is not necessary to use the proposed principles in post-workshop comments, but it would be helpful if any objections to any of the principles are clearly stated in comments.

1. Use of REC trading for RPS compliance should be consistent with the legislative goals for the RPS program.
2. REC trading should result in minimal disruption to the current RPS program.
3. REC trading should not increase the cost of RPS compliance in the near term, and should lower the cost of RPS compliance over the longer term.

4. REC trading should promote development of new infrastructure in California and neighboring states for renewable energy generation.
5. REC trading rules, guidelines, and policies should not be inconsistent with the development of a regional REC trading regime.
6. REC trading rules, guidelines, and policies should take account of the process of implementing California's greenhouse gas (GHG) reduction policy and the potential for federal programs for GHG reduction.²
7. REC trading rules, guidelines, and policies should meet the Commission's requirements for REC trading set out in D.03-06-071.
8. REC trading rules, guidelines, and policies should be simple, transparent, easily administered, uniformly applied, and equitable to all LSEs.

B. Specific Questions for Consideration

Staff has proposed the following questions to follow up on the workshop and allow parties ample opportunity to present relevant additional information and policy recommendations. Please use the questions to inform your comments, either by responding to the questions directly, or by addressing the issues raised by the questions in a more narrative format. Please incorporate or specifically refer to materials presented at the workshop whenever you rely on material presented at the workshop or base your policy recommendations on material presented at the workshop.

² Although not included in the original Principles, commenters should also consider the potential for regional programs for GHG reduction.

1. Basics of a tradable REC market

At the September workshop, Dr. Jurgen Weiss presented an economic analysis of REC market design in California. He has prepared a summary of his analysis, attached as Attachment C. Dr. Weiss' analysis illustrates the effects of market conditions (supply and demand) in the regulated region on a REC market. A focus on California's market conditions is provided by the presentation of Sara Kamins, Energy Division staff, "[Tradable RECs for RPS Compliance: California Context](#)" at:

<http://www.cpuc.ca.gov/static/energy/electric/renewableenergy/representations.htm>, which is attached as Attachment D. In responding to the following questions, please include a discussion of *specific* areas of agreement or disagreement with the analysis presented in Attachments C and D.

- (1) Of the following statements from Attachment D, please agree or disagree with each, and provide justification based on specific experiences and/or economic analysis.
 - (a) Tradable RECs will not affect current factors limiting new renewable energy projects in California. The limiting factors include: lack of adequate transmission infrastructure, complex and lengthy permitting processes, and in-state delivery requirements for RPS-eligible generation.³
 - (b) Tradable RECs will provide buyers and sellers of RPS-eligible generation with additional contracting flexibility in the near term and long term.
 - (c) Tradable RECs will facilitate RPS compliance for small LSEs, but will only marginally affect large IOUs' RPS compliance in the near term (*i.e.* until the 20% target is reached).

³ See Pub. Util. Code § 399.16(a)(3).

- (d) Given the stringent RPS targets and limited supply of surplus renewable energy in the near term (at least until the 20% target is reached), the California REC market would reflect a supply and demand imbalance.
- (2) What are the most likely sources of RECs that could be traded in the 2008-2011 timeframe? Please focus on RECs associated with generation that will meet the delivery requirements of Pub. Util. Code § 399.16(a)(3).⁴

Please be specific. Examples, which are meant to stimulate, not limit, comments, follow:

- (a) If a response is, “generation from renewable qualifying facilities (QFs) with expiring contracts,” please make a rough quantification of how many MW of capacity, of what type of renewable generation, beginning in which year(s), would be available to provide RECs that could be traded in the 2008-2011 timeframe.
- (b) If a response is, “renewable generation from neighboring states prior to commitment to those states’ RPS programs,” please make a rough quantification of how many MW of capacity of what type of renewable generation, beginning in which year(s), from what state(s), and how much of this developable capacity is already built or permitted, would be available to provide RECs that could be traded in the 2008-2011 timeframe. Also, please specify the publicly-available sources of information about potential development of such generation.
- (3) Please revisit the following two issues discussed in pre-workshop comments in light of the presentations and discussion at the workshop:
 - (a) How, if at all, would REC trading, as compared to the current firming and shaping rules for delivery of RPS-eligible power into California, provide more flexibility or be less costly for procuring out-of-state renewable energy? Please provide specific examples

⁴ Section 399.16(a)(3) states that tradable RECs must be associated with electricity that “is delivered to a [California] retail seller, the Independent System Operator, or a local publicly owned electric utility.”

of situations in which REC trading would enable procurement of energy from new renewable resources located outside of California and delivering energy into California that would not otherwise be possible.

- (b) How, if at all, would REC trading, as compared to current RPS flexible delivery rules⁵, provide more flexibility or be less costly in overcoming transmission congestion constraints? Please provide specific examples of situations in which REC trading would enable renewable energy projects to be developed in transmission constrained areas in California that would not otherwise be feasible.
- (4) Describe the foreseeable market in California and neighboring states for null⁶ power in the timeframe 2008-2011. Please discuss:
- Market demand for in-state null intermittent power;
 - Market demand for null firmed power delivered in California from out-of-state facilities;⁷
 - Characteristics of the existing spot market that affect procurement of null intermittent power; and
 - How, if at all, would the implementation of the California Independent Systems Operator's (CAISO) market redesign and technology upgrade (MRTU) affect the demand for and the treatment of null intermittent power and out-of-state null firmed power?
- (5) Please comment on Dr. Weiss's assessment of the elasticity of RPS demand and supply curves.

⁵ Pursuant to D.06-05-039, RPS contracts can schedule for delivery at any point in California.

⁶ Null power is energy that was originally generated from a renewable energy facility, but for which the RECs have been unbundled and sold separately.

⁷ Please consider both any additional costs necessary to firm/shape the energy to deliver it into California and location of transmission infrastructure to deliver the energy.

- (6) If demand for tradable RECs for RPS compliance exceeds supply in the California REC market (at least in the near term), do you agree with Dr. Weiss's analysis that REC prices would tend to float to the RPS penalty amount (\$50/MWh)? Would prices float to any other price cap the Commission might implement?
- (a) If REC prices floated to the penalty amount or a price cap, would a market for tradable RECs drive up the price of bundled RPS contracts?
 - (b) If REC prices floated to the penalty amount or a price cap, how would this affect California ratepayers in the short term? In the long term?
 - (c) If REC prices floated to the penalty amount or a price cap, would all RPS non-compliance costs then be transferred from utility shareholders to ratepayers? Would some portion of non-compliance costs be transferred?
- (7) Dr. Weiss presents an analysis of REC markets showing a bimodal pricing distribution, colloquially referred to as "boom-bust" pricing.
- (a) Please describe any situations in a California REC market in which the boom-bust pricing pattern is likely not to apply.
 - (b) In the timeframe 2008-2011, are contracts for RECs likely to provide developers of new renewable facilities in California and neighboring states with additional financial resources (both in terms of cash flow for the facility and in terms of willingness of investors and/or lenders to provide capital for development of the facility)? Why or why not?
 - (c) Please describe how the design of a tradable REC market for compliance with the California RPS should take into account the boom-bust pricing tendency. Please specify whether your design proposal posits a REC market whose principal purpose is:
 - (i) providing compliance flexibility for California RPS-obligated LSEs; or
 - (ii) stimulating development of new renewable energy generation capable of delivering into California; or
 - (iii) Either (i) or (ii) depending on whether the timeframe considered is 2008-2011 or 2012-2020; or

(iv) both (i) and (ii).

2. Staff straw proposal

At the September workshop, Energy Division staff presented a straw proposal for using tradable RECs for RPS compliance. A revised, current version of the staff straw proposal is attached as Attachment E. Please base comments on Attachment E, not on the staff proposal made at the workshop. Please treat the staff straw proposal as a *proposal*. In framing comments, however, imagine that the proposal describes a real system of using tradable RECs for RPS compliance under the existing RPS statutory framework. Please draw on your responses to questions in other sections, as appropriate.

- (1) For each area of the straw proposal⁸ please address the following issues, as well as any other issues that would contribute to a complete discussion of the straw proposal. Please provide all information necessary to support the analysis presented in the comments. Where relevant, please comment on the rationale provided by staff for each area.
 - (a) Impact on and integration with the existing methods of RPS compliance, including both procurement methods and existing flexible compliance rules.
 - (b) Impact on and integration with the existing methods of RPS reporting.
 - (c) Impact on the development of new renewable resources in California and neighboring states.
 - (d) Impact on RPS compliance in the timeframe 2008-2011.
 - (e) Impact on RPS compliance in the timeframe 2012-2020,

⁸ The areas are: market participants; limits on use of tradable RECs; flexible compliance, including both banking and earmarking of tradable RECs; treatment of RECs from bundled energy contracts; and cost recovery.

- (1) with the existing mandate of 20% of electricity sold at retail in California to be generated by eligible renewable resources by 2010, *and*
 - (2) with a new mandate of 33% of electricity sold at retail in California to be generated by eligible renewable resources by 2020, with the current statutory framework for RPS otherwise unchanged.
- (f) Impact on the development of a market for tradable RECs for RPS compliance.
 - (g) Impact on and integration with a possible market of tradable allowances for compliance with the Global Warming Solutions Act, Assembly Bill (AB) 32 (Nuñez/Pavley), 2006 Stats. ch. 488.⁹
- (2) In order to evaluate the TREC usage limits section of the straw proposal, please comment on whether the minimum quota proposal would help:
- (a) maintain a focus on new renewable infrastructure development;
 - (b) reduce ratepayer compliance costs that might otherwise result from a high demand for RECs relative to available supply;
 - (c) enable RPS procurement to remain a hedge against volatile natural gas prices;
 - (d) respond to the impact of supply and demand on REC market prices and liquidity by imposing more stringent minimum contracting requirements for short-term REC contracts than for short-term bundled contracts.

⁹ Commenters should bear in mind that no decisions have been made by the Commission, the California Energy Commission (CEC), or the Air Resources Board (ARB) about the ultimate design of the AB 32 compliance framework for the electricity and natural gas sectors, including whether a cap and trade system will be implemented, or whether the electric sector would be included in any cap and trade system. Further, no decision has been made regarding the point of regulation, *e.g.*, whether such a system would be load-based or source-based. Nor has any decision been made as to what types of credits and offsets would be eligible for trading, or how emission allowances would be distributed.

- (3) In order to evaluate the cost recovery section of the straw proposal, please comment on whether, if authorized by the Commission, an unbundled REC market for RPS compliance should be viewed as a commodity market, in which prices converge and each unit does not have a different intrinsic value?

If no:

- Is the value of an unbundled REC:
 - i. correlated to the production cost of the underlying renewable energy?
 - ii. the price difference between a bundled renewable energy contract and a bundled fossil contract?
 - iii. other

If yes:

- What factor(s) influence the commodity market price?
 - What methodologies can be used to evaluate the reasonableness of a REC price from the ratepayer's perspective?
 - Could the Commission practically implement the above proposed methodology? If not, what is the next best alternative approach?
- (4) Please identify any aspects of the straw proposal that you consider unnecessary or duplicative, and briefly explain the basis of your views.
- (5) What elements, if any, in addition to those identified in the straw proposal would be necessary to create a market for tradable RECs and administer an RPS program that included tradable RECs, while advancing the goals of the RPS program and complying with the requirements of § 399.16? Please be specific and explain why each additional element would be necessary.
- (6) As noted in the Amended Scoping Memo, after a workshop on REC trading for RPS compliance, the parties will then have the opportunity to "comment on the desirability, or lack thereof, of adopting a system like one of those developed through the workshop process, or be able to make another proposal that could

be contrasted in some detail with the previous possibilities.”
(pp. 4-5.)

- (a) If the straw proposal were adopted as set forth in Attachment E, would you recommend that the Commission authorize REC trading as a compliance tool for RPS compliance?
- (b) If you would not recommend that the Commission authorize a REC trading regime as outlined in the straw proposal, please either develop an alternative REC trading proposal, or state and explain that your view that no REC trading regime would be satisfactory.

3. REC Attributes

The possible development of a market for tradable RECs for California RPS compliance and the development of methods for compliance with AB 32 bring into sharp focus the importance of understanding all the attributes of a tradable REC.

The background on this issue includes the Scoping Memo and Ruling of Assigned Commissioner (April 28, 2006), which identified "the characteristics or attributes of any RECs allowed for RPS compliance" as one of the issues to be addressed in this proceeding. (p. 2.) Subsequently, in Senate Bill (SB) 107 (Simitian), 2006 Stats. ch. 464, the Legislature provided (in the section now codified at Pub. Util. Code § 399.12(g)(2)) that

‘Renewable energy credit’ includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource, except for an emissions reduction credit issued pursuant to Section 40709 of the Health and Safety Code and any credits or payments associated with the reduction of solid waste and treatment benefits created by the utilization of biomass or biogas fuels.

In D.07-02-011, as modified by D.07-05-057, the Commission addressed aspects of the standard terms and conditions for RPS contracts related to

environmental attributes. The section on Environmental Attributes from Appendix A to D.04-06-014 (at pp. A-2 – A-3) is reproduced as Attachment D-1. Those standard terms and conditions as set out in D.07-02-011, as modified by D.07-05-057, are reproduced as Attachment D-2.

Taking into account these documents, the requirements of Pub. Util. Code § 399.16, and the pending implementation of AB 32 (with the caveats and uncertainties expressed in footnote 9, above), please comment on the following issues.

- (1) With respect to biogas that is an RPS-eligible resource,¹⁰ should the benefits of capturing methane in the production of the biogas be included in the attributes of the REC associated with the biogas?
- (2) How should the "net zero emissions" requirement in the last sentence of the Green Attributes definition in Attachment D-2 be applied to the capture of methane to produce RPS-eligible biogas?
- (3) Should a REC include avoided carbon emissions associated with conventional generation displaced by the renewable generation giving rise to the REC? As a policy matter, why or why not? Please include all factual information necessary to support the policy choice expressed. Identify any assumptions or predictions about AB 32 that are related to the policy preference expressed (*e.g.*, "In a load-based regulatory framework in which emissions reductions from RPS compliance are included in the cap...") Please also make clear what definition of "avoided emissions" is being used in the response.¹¹

¹⁰ The CEC has set out the requirements for RPS-eligible biogas in its RPS Eligibility Guidebook, available at <http://www.energy.ca.gov/2007publications/CEC-300-2007-006/CEC-300-2007-006-CMF.PDF>.

¹¹ Are emissions "avoided" only if the renewable generation is "additional" to compliance with an existing compliance requirement? It is common in programs for GHG offset rules to consider whether the renewable generation represents "additional"

Footnote continued on next page

- (4) In view of the current uncertainties associated with the implementation of AB 32, what are the potential pitfalls, if any, both for the RPS program itself and the interaction of RPS with potential GHG regulatory methods, of determining that a tradable REC used for compliance with the California RPS includes avoided carbon emissions? Of determining that a REC does not include avoided carbon emissions?

In responding to this question, please review the presentation on Carbon Market and REC Market Interactions made by Kristin Ralff Douglas at the workshop, but note that the examples in that presentation are intended to be illustrative only, and do not reflect any determination that a particular method of implementing AB 32 has been developed.

- (5) Are there any potential legal impediments to or uncertainties about the implementation of the policy preferences you expressed in response to questions 1-4? What are they? How might they be overcome? Please explain in detail.
- (6) Would particular decisions about the implementation of AB 32 alter your views about the issues discussed in Questions 1-5, above? What decisions would have an impact? What impact would they have? Why?

4. Standard terms and conditions

- (1) What changes, if any, should be made in the standard terms and conditions set forth in Attachment D-2 to reflect and/or accommodate the policy preference and legal analysis set forth in your responses to questions 1-6 in Section 3?
- (2) What changes, if any, should be made to the standard terms and conditions to accommodate the use of tradable RECs for RPS compliance, even if you think no other changes are required in response to the questions in Section 3, above?

development, above and beyond what would have taken place through existing regulatory requirements or business as usual.

- (3) What changes, if any, should be made to the standard terms and conditions to conform to Pub. Util. Code § 399.14(a)(2)(D), which provides in part that “A contract for the purchase of electricity generated by an eligible renewable energy resource shall, at a minimum, include the renewable energy credits associated with all electricity generation specified under the contract.”
- (4) If any changes at all should be made to the standard terms and conditions, how should the RECs be treated that are associated with energy delivered under contracts using
 - (a) the standard terms and conditions set forth in Attachment D-1, or
 - (b) the standard terms and conditions set forth in Attachment D-2?

Request for Evidentiary Hearings

Any party believing that an evidentiary hearing is needed to address any material contested issues of fact related to the use of tradable RECs for RPS compliance *must* include a section in its opening comments, headed “Request for evidentiary hearing.” The request must list each material contested issue of fact that the party believes to be present in relation to the use of tradable RECs for RPS compliance. For each such issue, the party must include a brief statement of the basis for believing that the issue is both material and contested.

Parties believing that an evidentiary hearing is not necessary do not need to so indicate in their opening comments. Parties opposing a request for evidentiary hearings made in another party's opening comments, however, *must* include a section headed “Opposition to request(s) for evidentiary hearing” in their reply comments. The opposition must address each issue raised in the request(s) for evidentiary hearing being opposed.

Participation and Service Requirements

This ruling is being served on the service lists for R.06-02-012 (this proceeding), R.06-05-027, R.06-03-004, and R.06-04-009. Participants in other

proceedings may file post-workshop comments and/or reply comments in this proceeding (R.06-02-012) without filing a separate request to become a party, but must comply with the requirements of Rule 1.4(b).

All post-workshop comments and reply comments must be served on the service lists for R.06-02-012, R.06-05-027, R.06-03-004, and R.06-04-009. No matter what form of filing or service is used, paper copies of all comments and reply comments must be sent to Administrative Law Judge (ALJ) Simon at the time that service is made.

Any requests for extensions of time or other variations from the requirements of this ruling should be made at least two full business days prior to the original date for which the change is sought.

IT IS RULED that:

1. Post-workshop comments of not more than 50 pages (plus no more than 25 pages of germane attachments) may be filed and served not later than November 13, 2007.
2. Reply comments of not more than 25 pages (plus no more than 15 pages of germane attachments) may be filed and served not later than November 30, 2007.
3. Any party believing that an evidentiary hearing is needed to address any material contested issues of fact related to the use of tradable RECs for RPS compliance must include a section in its opening comments, headed "Request for evidentiary hearing," listing the issues and providing the basis for believing that each is material and contested.
4. Parties opposing a request for evidentiary hearings made in another party's opening comments must include a section headed "Opposition to request(s) for evidentiary hearing" in their reply comments, addressing each issue raised in the request(s) for evidentiary hearing being opposed.

5. All comments and reply comments must be served on the service lists of R.06-02-012, R.06-05-027, R.06-03-004, and R.06-04-009. Paper copies must be provided to ALJ Simon.

6. Participants in Commission proceedings other than R.06-02-012 may file post-workshop comments and/or reply comments in this proceeding without filing a separate request to become a party, so long as they comply with the requirements of Rule 1.4(b).

Dated October 16, 2007, at San Francisco, California.

/s/ ANNE E. SIMON
Anne E. Simon
Administrative Law Judge

ATTACHMENT A

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§ 399.16. Use of renewable energy credits to satisfy the requirements of the renewables portfolio standard.

(a) The commission, by rule, may authorize the use of renewable energy credits to satisfy the requirements of the renewables portfolio standard established pursuant to this article, subject to the following conditions:

(1) Prior to authorizing any renewable energy credit to be used toward satisfying annual procurement targets, the commission and the Energy Commission shall conclude that the tracking system established pursuant to subdivision (c) of Section 399.13, is operational, is capable of independently verifying the electricity generated by an eligible renewable energy resource and delivered to the retail seller, and can ensure that renewable energy credits shall not be double counted by any seller of electricity within the service territory of the Western Electricity Coordinating Council (WECC).

(2) A renewable energy credit shall be counted only once for compliance with the renewables portfolio standard of this state or any other state, or for verifying retail product claims in this state or any other state.

(3) The electricity is delivered to a retail seller, the Independent System Operator, or a local publicly owned electric utility.

(4) All revenues received by an electrical corporation for the sale of a renewable energy credit shall be credited to the benefit of ratepayers.

(5) No renewable energy credits shall be created for electricity generated pursuant to any electricity purchase contract with a retail seller or a local publicly owned electric utility executed before January 1, 2005, unless the contract contains explicit terms and conditions specifying the ownership or disposition of those credits. Deliveries under those contracts shall be tracked through the accounting system described in subdivision (b) of Section 399.13 and included in the baseline quantity of eligible renewable energy resources of the purchasing retail seller pursuant to Section 399.15.

(6) No renewable energy credits shall be created for electricity generated under any electricity purchase contract executed after January 1, 2005, pursuant to the federal Public Utility Regulatory Policies Act of 1978 (16 U.S.C. Sec. 2601 *et seq.*). Deliveries under the electricity purchase contracts shall be tracked through the accounting system described in subdivision (b) of Section 399.12 and

ATTACHMENT A

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count towards the renewables portfolio standard obligations of the purchasing retail seller.

(7) The commission may limit the quantity of renewable energy credits that may be procured unbundled from electricity generation by any retail seller, to meet the requirements of this article.

(8) No retail seller shall be obligated to procure renewable energy credits to satisfy the requirements of this article in the event that supplemental energy payments, in combination with the market prices approved by the commission, are insufficient to cover the above-market costs of long-term contracts, of more than 10 years' duration, with eligible renewable energy resources.

(9) Any additional condition that the commission determines is reasonable.

(b) The commission shall allow an electrical corporation to recover the reasonable costs of purchasing renewable energy credits in rates.

(END OF ATTACHMENT A)

INFORMATION REGARDING SERVICE

I have provided notification of filing to the electronic mail addresses on the attached service list.

Upon confirmation of this document's acceptance for filing, I will cause a Notice of Availability of the filed document to be served upon the service list to this proceeding by U.S. mail. The service list I will use to serve the Notice of Availability of the filed document is current as of today's date.

Dated October 16, 2007, at San Francisco, California.

/s/ TERESITA C. GALLARDO
Teresita C. Gallardo